AMENDMENTS TO THE DRAWINGS

Applicant submits herewith replacement drawing sheets for FIGs. 1-13. No new matter has been added by way of this amendment. In the Office Action, the Examiner objected to several of the figures because there exist large gaps in the labels that obscure the meanings of the labels. Applicant submits that the replacement drawings filed herewith are in compliance with the relevant rules and regulations.

REMARKS

This amendment is responsive to the Office Action dated June 28, 2007. Applicant has amended claims 1, 3-5, 7-14, 17-23, 25, 27-32, 34-36, 38-40, 42-51, 53-59, 62-64, 67-78, 80, and 85-87. Claims 1-15. 17-51, 53-64, and 66-87 are pending.

Claim Objections

Claims 3, 21, 72, and 80

In the Office Action, the Examiner objected to Applicant's claims 3, 21, 72, and 80. The Examiner indicated his belief that it is unclear whether the "standard Message Digest 5 algorithm" recited in Applicant's claims 3, 21, 72, and 80 refers to the MD5-based function of claim 2, or whether this paragraph rather recites that manner in which the MD5-based function differs from standard MD5. Applicant submits that claims 3, 21, 72, and 80, as amended, are free of such informalities.

Claim 77

The Examiner objected to Applicant's claim 77 on account that claim 77 ends with two "period" marks. Applicant submits that claim 77, as amended, is free of this informality.

Claim Rejection Under 35 U.S.C. § 112

In the Office Action, the Examiner rejected claim 86 under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. As discussed in the Manual of Patent Examination Procedure ("MPEP") at section 2164.08(a), "a single means claim, i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. 112, first paragraph."

Applicant has amended claim 86 such that claim 86 now requires a "means for receiving a challenge from a first network device that is configured to authenticate a user of the second network device based on a final hash value generated by applying a remaining part of a hash function to a preliminary hash value" and a "means for generating the preliminary hash value."

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Accordingly, Applicant's claim 86 includes a means recitation that is in combination with another recited element of means. Consequently, Applicant's claim 86 is not subject to an undue breath rejection under 35 U.S.C. 112, first paragraph. For this reason, Applicant requests that the Examiner withdraw the rejection of Applicant's independent claim 86 under 35 U.S.C. 112, first paragraph.

In the Office Action, the Examiner rejected claims 12, 13, 30, 31, 49, 50, 62, and 63 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant has amended claims 12, 13, 30, 31, 49, 50, 62, and 63 for purposes of clarification. Applicant submits that claims 12, 13, 30, 31, 49, 50, 62, and 63, as amended, particularly point out and distinctly claim the subject matter, as required by 35 U.S.C. 112, second paragraph.

Claim Rejection Under 35 U.S.C. § 102

In the Office Action, the Examiner rejected claims 1, 2, 4-10, 12, 16, 18-20, 22-28, 30, 34, 36-47, 49, 52, 54-60, 62, 65, 67-71, 73-79, 81-83, and 85-87 under 35 U.S.C. 102(b) as being anticipated by Anderson (US 5,751,812). In order to support an anticipation rejection under 35 U.S.C. 102(b), it is well established that a prior art reference must disclose each and every element of a claim. This well known rule of law is commonly referred to as the "all-elements rule."[1] If a prior art reference fails to disclose any element of a claim, then rejection under 35 U.S.C. 102(b) is improper.[2] Anderson fails to disclose each and every feature of the claimed invention, as required by 35 U.S.C. 102(b), and provides no teaching that would have suggested the desirability of modification to include such features. For this reason, Applicant respectfully traverses the rejection.

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[1] *See Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 231 USPQ 81 (CAFC 1986) ("it is axiomatic that for prior art to anticipate under 102 it has to meet every element of the claimed invention").

[2] *Id. See also Lewmar Marine, Inc. v. Barient, Inc.* 827 F.2d 744, 3 USPQ2d 1766 (CAFC 1987); *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (CAFC 1990); *C.R. Bard, Inc. v. MP Systems, Inc.*, 157 F.3d 1340, 48 USPQ2d 1225

Claims 1 through 18

Applicant's independent claim 1 requires the act of generating a preliminary hash value by performing only a first part of a hash function on a first part of the challenge, wherein the first part is less than the complete challenge. Furthermore, Applicant's claim 1 requires applying a remaining part of the hash function to the preliminary hash value to produce a final hash value. Anderson does not teach or suggest these limitations of Applicant's claim 1.

In the Office Action, the Examiner suggested that a passage at col. 5, lines 51-56 of Anderson teaches or suggests these limitations of Applicant's claim 1. This passage reads,

> The server in step (2) challenges the client for the i-1 login in the current login series, receives $H^{i-1}(A)$ from the client in response, computes $H(H^{i-1}(A))$ and compares the result to the stored value of $H^i(A)$ generated during the previous valid login. If a match is found, the corresponding user has a valid password, and the values of i-1 and $H^{i-1}(A)$ are stored for use with the next login in the series as was noted in conjunction with FIG. 1 above.

From the preceding paragraph of Anderson, it is clear that the value "$H^i(A)$ represents *i* applications of a hash function H to a user password A as generated during a previous login procedure."

From this passage of Anderson, it is clear that the "client" of Anderson generates a series of hash values by repeatedly applying a hash function "to a user password A." Furthermore, this passage of Anderson clearly indicates that the "challenge" from the "server" is a demand for the "client" to provide the "server" with a particular hash value in the series of hash values generated by the "client." It is thus apparent that Anderson does not teach or suggest that the "client" applies the hash function to any data in the "challenge" that was sent from the "server" to the "client." Because Anderson does not teach or suggest the performance of a hash function on any data that the "server" sent to the "client," Anderson does not teach the performance of only a part of the hash function on any part of the challenge as required by Applicant's claim 1. Furthermore, it follows with even greater force that, Anderson does not teach the performance of only a first part of a hash function to a first part of the challenge that is less than the complete

(CAFC 1998); *Oney v. Ratliff*, 182 F.3d 893, 51 USPQ2d 1697 (CAFC 1999); *Apple Computer, Inc. v. Articulate Systems, Inc.*, 234 F.3d 14, 57 USPQ2d 1057 (CAFC 2000).

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challenge. For this reason, it apparent that Anderson does not teach this requirement of Applicant's claim 1.

Furthermore, Applicant's claim 1 requires the generation of the preliminary hash value when the second network device received the challenge via a secure network tunnel between the first network device and the second network device. As defined in the specification, a network "tunnel" is a secure transmission path established across one or more networks between a first network device and a second network device, such that the first and second network devices can exchange communications along the path, and the contents thereof (except for information necessary for proper switching and routing) is secured against ascertainment by any entity except the first and second network devices.

There is nothing in Anderson to suggest the generation of the preliminary hash value when the secure network device received the challenge via a secure network tunnel between the first network device and the second network device. In particular, Anderson does not describe a situation in which the "server" uses a network tunnel to communicate the "challenge" to the "client." In other words, Anderson does not describe a situation in which the "server" uses a secure transmission path across one or more networks between the "server" and the "client," such that the "server" and the "client" can exchange communications along the path, and the contents thereof is secured against ascertainment by any entity except the first and second network devices. In fact, there is no apparent need for a secure tunnel in Anderson because there is no need to conceal the content of the "challenge" in Anderson. There is no apparent need to conceal the content of the "challenge" in Anderson because the "challenge" (i.e., a request for a hash value in a series of hash values) does not contain any information that an attacker could use as part of an attack on either the "client" or the "server." Because there is nothing in Anderson that teaches or suggests the "server" sends the "challenge" through a tunnel, there is nothing in Anderson to suggest that the second network device of Applicant's claim 1 performs only a first part of the hash function on a first part of the challenge when the second network device received the challenge via a secure network tunnel between the first network device and the second network device.

For at least the reasons stated above, Anderson fails to disclose each and every limitation set forth in Applicant's independent claim 1 and its dependent claims 2-15 and 17. For at least

these reasons, Anderson does not provide a basis for a prima facie case for anticipation of Applicant's claims 1-15 and 17 under 35 U.S.C. 102(b). Withdrawal of this rejection is requested.

Claims 19-51, 53-64, 66-87

Applicant's independent claims 19, 38, 39, 40, 54, 68, 69, 70, 78, 86, and 87 include, mutatis mutandis, requirements that the second network device performs only a first part of a hash function on a first part of a challenge sent by the first network device. Furthermore, each of Applicant's independent claims 19, 38, 39, 40, 54, 68, 69, 70, 78, 86, and 87 include requirements that the second network device performs the first part of the hash function on the first part of the challenge when the second network device received the challenge via a secure network tunnel between the first network device and the second network device. As described above with regard to Applicant's independent claim 1, Anderson does not teach or suggest either of these requirements.

Because Anderson does not teach or suggest one or more requirements of Applicant's independent claims 19, 38, 40, 54, 68, 69, 70, 78, 86, and 87, Anderson does not provide a basis for a prima facie case of anticipation for Applicant's independent claims 19, 38, 40, 54, 68, 69, 70, 78, 86, and 87 under 35 U.S.C. 102(b). Accordingly, Applicant respectfully request that the Examiner withdraw the rejection of Applicant's independent claims 19, 38, 40, 54, 68, 69, 70, 78, 86, and 87 and their dependent claims 20, 22-28, 30, 34, 36, 37, 39, 41-47, 49, 55-60, 62, 67, 73-77, 79, 81-83, and 85.

Claim Rejection Under 35 U.S.C. § 103

In the Office Action, the Examiner rejected claims 11, 13, 14, 17, 29, 31, 32, 35, 48, 50, 51, 53, 61, 63, 64, and 66 under 35 U.S.C. 103(a) as being unpatentable over Anderson. Applicant respectfully traverses the rejection to the extent such rejections may be considered applicable to the claims as amended. Applicant's dependent claims 11, 13, 14, and 17 are dependent on Applicant's independent claim 1. Applicant's dependent claims 29, 31, 32, and 35 are dependent on Applicant's independent claim 19. Applicant's dependent claims 48, 50, 51, and 53 are dependent on Applicant's independent claim 40. Applicant's dependent claims 61,

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63, 64, and 66 are dependent on Applicant's independent claim 54. As discussed above, Anderson does not teach or suggest each element of Applicant's independent claims 1, 19, 40, and 54. Accordingly, Anderson in view of official notice cannot provide a basis for a prima facie case of obviousness for Applicant's claims 11, 13, 14, 17, 29, 31, 32, 35, 48, 50, 51, 53, 61, 63, 64, and 66 under 35 U.S.C.103(a). For this reason, Applicant respectfully requests that the Examiner withdraw the rejection of Applicant's claims 11, 13, 14, 17, 29, 31, 32, 35, 48, 50, 51, 53, 61, 63, 64, and 66 under 35 U.S.C. 103(a).

In the Office Action, the Examiner rejected claims 3, 15, 21, 33, 72, 80, and 84 under 35 U.S.C. 103(a) as being unpatentable over Anderson as applied to claims 1, 2, 19, 20, 71, 78, and 79, and further in view of Kurn et al. (US 6,901,512). Applicant respectfully traverses the rejection to the extent such rejections may be considered applicable to the claims as amended.

Applicant's claims 3 and 15 are dependent on Applicant's independent claim 1. Applicant's claims 21 and 33 are dependent on Applicant's independent claim 19. Applicant's claim 72 is dependent of Applicant's independent claim 71. Applicant's claim 80 is dependent on Applicant's claim 78. As discussed above, Anderson does not teach or suggest each element of Applicant's independent claims 1, 19, 71, and 78. Accordingly, Anderson in view of official notice cannot provide a basis for a prima facie case of obviousness for Applicant's claims 3, 15, 21, 33, 72, 80, and 84. For this reason, Applicant respectfully requests that the Examiner withdraw the rejection of Applicant's claims 3, 15, 21, 33, 72, 80, and 84 under 35 U.S.C. 103(a).
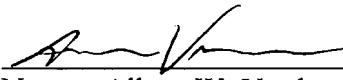
CONCLUSION

All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

Date: By:

September 28, 2007   _____

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